What is claimed is:

1. A method of operating an electrodeionization apparatus which includes an anolyte compartment having an anode, a catholyte compartment having a cathode, at least one concentrating compartment, and at least one desalting compartment,

the concentrating compartment and the desalting compartment being formed between the anolyte compartment and the catholyte compartment by arranging at least one anion-exchange membrane and at least one cation-exchange membrane,

the desalting compartment being filled with ion-exchanger,

the concentrating compartment being filled with at least one of ion-exchanger, activated carbon, and electric conductor;

wherein the electrodeionization apparatus produces deionized water by supplying electrode water into the anolyte compartment and the catholyte compartment; supplying concentrated water into the concentrating compartment; and feeding raw water into the desalting compartments to produce the deionized water from the desalting compartment;

wherein the concentrated water includes at least one of silica and boron at a lower concentration than the raw water, and the concentrated water is introduced into the concentrating compartment at a side near

an outlet for deionized water of the desalting compartment and flows out of the concentrating compartments at a side near an inlet for the raw water of the desalting compartment, and

wherein at least a part of the concentrated water flowing out of the concentrating compartment is discharged out of a circulatory system.

2. A method of operating an electrodeionization apparatus as claimed in claim 1, wherein the concentrated water flows in the concentrating compartment in single-pass counter-flow manner relative to the water in the desalting compartment.

3. A method of operating an electrodeionization apparatus as claimed in claim 1, wherein at least one of desalted water of the electrodeionization apparatus, treated water produced by further treating the desalted water by another apparatus such as an ion exchange apparatus, and ultra pure water is introduced into the concentrating compartment as the concentrated water.

4. A method of operating an electrodeionization apparatus as claimed in claim 1, wherein the anolyte compartment and the catholyte compartment are filled with at least one of activated carbon, ion-exchanger, and electric conductor.

5. A method of operating an electrodeionization apparatus as

claimed in claim 1, wherein

the anode is in contact with a cation-exchange membrane which defines the anolyte compartment,

the cathode is in contact with an anion-exchange membrane which defines the catholyte compartment, and

the anode and the cathode are each provided, at least at a side being in contact with the corresponding membrane, with a porous structure having continuous multiple apertures through which electrode water flows.

6. A method of operating an electrodeionization apparatus as claimed in claim 1, wherein the line velocity (LV) of the concentrated water in the concentrating compartment is 20 m/hr or less.

7. A method of operating an electrodeionization apparatus as claimed in claim 1, wherein the thickness of the desalting compartment is 2-5 mm.

8. A method of operating an electrodeionization apparatus as claimed in claim 1, wherein the current has a current value that the current efficiency of the electrodeionization apparatus expressed by the following equation is 10% or less:

Current Efficiency (%) = 1.31 [flow rate per cell (L/min)]

[[equivalent conductivity of raw water (μS/cm)] –[equivalent

conductivity of treated water (μS/cm)]] / current (A)

9. A method of operating an electrodeionization apparatus as claimed in claim 8, wherein the current has a current value that the current efficiency is 5% or less.

10. An electrodeionization apparatus comprising:

an anolyte compartment having an anode;

a catholyte compartment having a cathode;

at least one concentrating compartment;

at least one desalting compartment wherein the concentrating compartments and the desalting compartments are formed between the anolyte compartment and the catholyte compartment by arranging at least one anion-exchange membrane and at least one cation-exchange membrane;

ion-exchanger with which the desalting compartment is filled;

at least one of ion-exchanger, activated carbon, and electric conductor which fills the concentrating compartment;

a device for introducing electrode water into the anolyte compartment and the catholyte compartment, respectively;

a concentrated water introducing device for introducing concentrated water into the concentrating compartments; and

a device for feeding raw water into the desalting compartment to

produce the deionized water,

wherein the concentrated water introducing device introduces water containing at least one of silica and boron at a lower concentration than the raw water into the concentrating compartments at a side near an outlet for the deionized water of the desalting compartment;

the concentrated water introducing device makes the concentrated water flow out of the concentrating compartment at a side near an inlet for the raw water of the desalting compartment; and

the concentrated water introducing device discharges at least a part of the concentrated water flowing out of the concentrating compartments out of a circulatory system.

11. An electrodeionization apparatus as claimed in claim 10, wherein the concentrated water introducing device introduces the concentrated water into the concentrating compartment in single-pass counter-flow manner relative to the water in the desalting compartment.

12. An electrodeionization apparatus as claimed in claim 10, wherein one of the desalted water produced by the electrodeionization apparatus, treated water prepared by further treating the desalted water by another apparatus such as an ion exchange apparatus, and ultra pure water is introduced into the concentrating compartment as the concentrated water.

13. An electrodeionization apparatus as claimed in claim 10, wherein the anolyte compartment and catholyte compartment are filled with at least one of activated carbon, ion-exchanger, and electric conductor.

14. An electrodeionization apparatus as claimed in claim 10, wherein the anode is in contact with a cation-exchange membrane which defines the anolyte compartment,

the cathode is in contact with an anion-exchange membrane which defines the catholyte compartment, and

the anode and the cathode are each provided, at least at a side being in contact with the corresponding membrane, with a porous structure having continuous multiple apertures through which electrode water flows in the anolyte compartment and the catholyte compartment.

15. An electrodeionization apparatus as claimed in claim 10, wherein the line velocity (LV) of the concentrated water in the concentrating compartment is 20 m/hr or less.

16. An electrodeionization apparatus as claimed in claim 10, wherein the thickness of the desalting compartment is 2-5 mm.

17. An electrodeionization apparatus as claimed in claim 10, wherein the current has a current value that the current efficiency of the electrodeionization apparatus expressed by the following equation is

10% or less:

Current Efficiency (%) = 1.31 [flow rate per cell (L/min)] [[equivalent conductivity of raw water (μS/cm)] –[equivalent conductivity of treated water (μS/cm)]] / current (A)

18. An electrodeionization apparatus as claimed in claim 17, wherein the current has a current value that the current efficiency is 5% or less.

19. A system for producing ultra pure water comprising the electrodeionization apparatus as claimed in claim 10.

20. A system for producing ultra pure water as claimed in claim 19, further comprising an ultrafiltration membrane separation apparatus into which deionized water from the electrodeionization apparatus is introduced, wherein concentrated water from the ultrafiltration membrane separation apparatus is introduced into the concentrating compartment of the electrodeionization apparatus.